

MATERIAL SAFETY DATA SHEET

DURO™ AW OIL 32

DPM 319

MSDS No.
APPC 457

Rev. Date
10/28/83



ARCO PETROLEUM PRODUCTS COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
515 SOUTH FLOWER STREET
LOS ANGELES, CALIFORNIA 90071

IMPORTANT: Read this MSDS before
handling and disposing of this product
and pass this information on to
employees, customers, and users of
this product

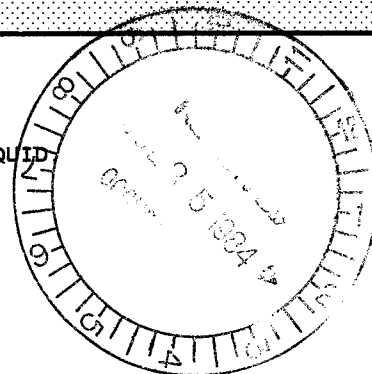
I. General

Trade Name DURO AW OIL 32		Telephone Numbers EMERGENCY 800/424-9300 CHEMTREC 312/210-3000 COMPANY CUSTOMER SERVICE 213/486-8258 INFO ONLY
Other Names DURO AW OIL S-150 AND DURO OIL AW-16 (FORMER NAMES) HEAVY-DUTY RUST AND OXIDATION-INHIBITED HYDRAULIC OIL HYTHERM OIL S-150 AW AND EAGLE OIL R&O 16-H (FORMER NAMES)		
Chemical Family PETROLEUM HYDROCARBONS AND ADDITIVES	DOT Hazardous Materials Proper Shipping Name NOT DEFINED AS A "HAZARDOUS MATERIAL"	
Generic Name R&O/ANTIWEAR HYDRAULIC & INDUSTRIAL OIL	DOT Hazard Class NOT APPLICABLE	
CAS No.	Company ID No. 3573335733	UN No.

II. Summary of Hazards

CAUTION

SLIGHTLY COMBUSTIBLE! OSHA/NFPA CLASS-IIIB COMBUSTIBLE LIQUID
AVOID PROLONGED AND/OR REPEATED SKIN CONTACT.



III. Fire and Explosion

Flash Point (Method) AP 380° F (D-92)	Autoignition Temperature (Method) AP 750° F (EST.)	Flammable Limits (% Vol. in Air) Lower N/AP Upper N/AP
Unusual Fire and Explosion Hazards WHEN HEATED ABOVE ITS FLASH POINT, THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH CAN BURN OR BE EXPLOSIVE IN CONFINED SPACES IF EXPOSED TO A SOURCE OF IGNITION. MISTS OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE NORMAL FLASH POINT. KEEP AWAY FROM EXTREME HEAT AND OPEN FLAME.		
Extinguishing Media DRY CHEMICAL AND CO2. FOAM AND WATER FOG ARE EFFECTIVE BUT MAY CAUSE FROTHING.		
Special Firefighting Procedures FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED OR CONFINED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT. THIS MAY INCLUDE SELF-CONTAINED BREATHING APPARATUS TO PROTECT AGAINST THE HAZARDOUS EFFECTS OF COMBUSTION PRODUCTS AND OXYGEN DEFICIENCIES. IF FIREFIGHTERS CANNOT WORK UPWIND TO THE FIRE, RESPIRATORY PROTECTIVE EQUIPMENT MUST BE WORN. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER.		

IV. Health Hazards

Primary Hazard NOT EXPECTED TO PRESENT A SIGNIFICANT HEALTH HAZARD UNDER CONDITIONS OF NORMAL USE.

ROUTE OF EXPOSURE

SIGNS AND SYMPTOMS

Inhalation NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURE.

Eye Contact TESTS ON SIMILAR MATERIALS SUGGEST THAT THIS PRODUCT IS NON-IRRITATING UPON SHORT-TERM EXPOSURE.

Skin Absorption TESTS ON SIMILAR MATERIALS SUGGEST THAT NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURE.

Skin Irritation PROLONGED OR REPEATED SKIN CONTACT WITH SIMILAR MATERIALS MAY PRODUCE SLIGHT IRRITATION AND INFLAMMATION.

Ingestion TESTS ON SIMILAR MATERIALS SUGGEST THAT NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURE.

Effects Of Overexposure PROLONGED AND/OR REPEATED CONTACT WITH THIS MATERIAL MAY PRODUCE SLIGHT SKIN IRRITATION AND INFLAMMATION.

V. Protective Equipment

Respiratory NONE IS NEEDED UNDER NORMAL CONDITIONS WITH ADEQUATE VENTILATION. IF EXPOSURE EXCEEDS THE CONTROL LIMITS, RESPIRATORY PROTECTIVE EQUIPMENT WHICH MEETS 29 CFR 1910.134 AND IS NIOSH/MSHA APPROVED MUST BE WORN.

Ventilation USE ADEQUATE VENTILATION TO KEEP OIL MISTS OF THIS MATERIAL BELOW APPLICABLE STANDARD(S). (SEE SECTION VI - OCCUPATIONAL EXPOSURE LIMITS.)

Eye SAFETY GLASSES SHOULD BE ADEQUATE PROTECTION UNDER NORMAL CONDITIONS OF USE.

Skin AVOID PROLONGED OR REPEATED SKIN CONTACT. HANDS OR OTHER POTENTIAL SKIN CONTACT AREAS SHOULD BE WASHED WITH MILD SOAP AND WATER AT LUNCH TIME AND WHEN LEAVING WORK. (SEE SECTION XI.)

Other

VI. Occupational Exposure Limits

1.	Substance	Source	Date
	OIL MIST, MINERAL (SEE SECTION XI.)	ACGIH	1983
Exposure Limit Value/Time		Short Term Limit/Time	Peak Limit
5 MG/M3 / 8 HOURS		10 MG/M3 / 15 MINUTES	NOT ESTABLISHED
2.	Substance	Source	Date
	OIL MIST, MINERAL (SEE SECTION XI.)	FEDERAL OSHA	1983
Exposure Limit Value/Time		Short Term Limit/Time	Peak Limit
5 MG/M3 / 8 HOURS		NOT ESTABLISHED	NOT ESTABLISHED

**VII. Emergency and First Aid**

Inhalation	NO HAZARD IS EXPECTED AT AMBIENT TEMPERATURES, BUT SHOULD INHALATION OCCUR, IMMEDIATELY REMOVE PERSONNEL FROM CONTAMINATED AREA TO FRESH AIR. OBTAIN MEDICAL ATTENTION IF THERE ARE SIGNS OF BREATHING DIFFICULTIES.
Eye Contact	FLUSH EYES WITH CLEAN, LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE EYELIDS. IF PAIN OR REDNESS PERSISTS AFTER FLUSHING, OBTAIN MEDICAL ATTENTION.
Skin Contact	REMOVE BY WIPING; THEN WASH SKIN THOROUGHLY WITH PLENTY OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND THOROUGHLY CLEAN BEFORE REUSE.
Ingestion	IF LARGE AMOUNTS OF THIS MATERIAL ARE INGESTED, GIVE QUANTITIES OF WATER, INDUCE VOMITING, AND PROMPTLY OBTAIN MEDICAL ATTENTION.

Note to
Physician**VIII. Spill and Disposal**

Precautions if Material is Spilled or Released	CONTAIN SPILL AND PREVENT IT FROM ENTERING ALL WATER BODIES, IF POSSIBLE. SAFELY STOP FLOW OF SPILL. EVACUATE NON-ESSENTIAL PERSONNEL FROM IMMEDIATE SPILL AREA DUE TO SLIPPING HAZARDS. IN URBAN AREA, CLEANUP AS SOON AS POSSIBLE; IN NATURAL ENVIRONMENTS, CLEANUP ON ADVICE FROM ECOLOGISTS. THIS MATERIAL WILL FLOAT ON WATER. ABSORBANT MATERIALS AND PADS CAN BE USED. NOTIFY THE NATIONAL RESPONSE CENTER (800/424-8802) AND COMPLY WITH ALL APPLICABLE LAWS. THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.
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Waste
Disposal
Methods

MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. CONDITIONS OF USE MAY CAUSE THIS MATERIAL TO BECOME A "HAZARDOUS WASTE" AS DEFINED BY STATE OR FEDERAL LAWS. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. PROPERLY ACCLIMATE THE BIOMASS TO THE SPILL MATERIAL. POTENTIAL TREATMENT AND DISPOSAL METHODS INCLUDE LAND FARMING, INCINERATION AND LAND DISPOSAL, IF PERMITTED.

IX. Components (This may not be a complete list of components)

Component Name	CAS No.	Composition amount (Wt.) (See Note on Page 4)
ADDITIVE MIXTURE CONTAINING COMPOUNDS OF CA, ZN, S, AND P.		AP 1 PERCENT
DEFOAMER		AP 50 PPM
POUR POINT DEPRESSANT		LT 0.2 PERCENT
ORGANIC ZINC COMPOUND(S), MEASURED AS ZN	7440-66-6	LT 0.06 PERCENT
SOLVENT-DEWAXED HEAVY PARAFFINIC DISTIL- LATE (PETROLEUM)	64742-65-0*	GT 98 PERCENT

Compositions given are typical values, not specifications.

X. Physical and Chemical Data

Boiling Point GT 600° F	Evaporation Rate (Ratio of Time) SLOWER THAN ETHYL ETHER	Dry Point N/AP
Freezing Point N/AP	Vapor Pressure (MM HG AT 70° F) LT 0.1	Volatile Characteristics NEGLIGIBLE
Specific Gravity (H₂O = 1 at 39.2° F) AP 0.87	Vapor Sp. Gr. (Air = 1.0 at 60° - 90° F) GT 10	Solubility in Water NEGLIGIBLE
Hazardous Polymerization NOT EXPECTED TO OCCUR	Viscosity Units, Temp., Method AP 165 SUS AT 100° F D2161	Stability STABLE
Hazardous Polymerization NOT EXPECTED TO OCCUR	Viscosity Units, Temp., Method AP 165 SUS AT 100° F D2161	pH N/AP

Other Physical and Chemical Properties TYPICAL VISCOSITY INDEX = 95 (ASTM D-2270).
POUR POINT TEMPERATURE = LT -20° F. (ASTM D-97).

Appearance and Odor YELLOW-COLORED LIQUID; LUBE OIL ODOR.

Conditions to Avoid EXTREME HEAT AND OPEN FLAME.

Materials to Avoid STRONG ACIDS, ALKALIES, AND OXIDIZERS SUCH AS LIQUID CHLORINE AND OXYGEN.

Hazardous Decomposition Products BURNING OR EXCESSIVE HEATING MAY PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES/VAPORS INCLUDING OXIDES AND/OR OTHER COMPOUNDS OF CA, ZN, S, AND P.

XI. Additional Precautions

Handling and Storage USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES. TAKE A SHOWER AFTER WORK USING SOAP AND WATER. IN CASE OF SKIN CONTACT, WASH WITH PLENTY OF SOAP AND WATER. AVOID USE OF SOLVENTS (GASOLINE, KEROSENE, ETC.) AND HARSH ABRASIVE SKIN CLEANERS. OIL-SOAKED CLOTHING SHOULD BE PROMPTLY REMOVED AND LAUNDERED BEFORE REUSE. DISCARD OIL-SOAKED LEATHER GLOVES AND SHOES.

General Comments

SINCE SPECIFIC EXPOSURE STANDARDS/CONTROL LIMITS HAVE NOT BEEN ESTABLISHED FOR THIS MATERIAL, THE EXPOSURE LIMITS LISTED IN SECTION VI. ARE SUGGESTED AS MINIMUM CONTROL GUIDELINES FOR INTERIM USE.

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

- - - Note - - - Qualifications: EQ = Equal AP = Approximately N/AV = Not Available
LT = Less Than UK = Unknown N/AP = Not Applicable
GT = Greater Than TR = Trace N/DA = No Data Available

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